UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,823	12/31/2003	Brian H. Johnston	84785AJA	9365

7590 03/28/2005

Paul A. Leipold
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

EXAMINER	
WALKE, AMANDA C	
ART UNIT	**PAPER NUMBER**
1752	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/749,823	JOHNSTON ET AL.	
	Examiner	Art Unit	
	Amanda C Walke	1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481

(Bd. App. 1949). In the present instance, claim 1 recites the broad recitation Sodium Bromide, and the claim also recites "(anhydrous)" which is the narrower statement of the range/limitation. If applicant intends on claiming *solely* anhydrous sodium bromide, then it is suggested that applicant clarify that in the claims and delete the parenthesis.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darmon et al (6,077,651) in view of Ishikawa (5,752,122).

An aqueous, homogeneous, single-part color developing concentrate comprises a color developing agent in free base form, an antioxidant for the color developing agent, a buffering agent, and a water-miscible or water-soluble hydroxy-substituted, straight-chain organic solvent present in an a concentration such that the weight ratio of water to the organic solvent is from about 15:85 to about 50:50. This composition is prepared in a unique manner, namely by combining the noted components, and removing the sulfate anions commonly present in color developing agents by precipitation with alkali metal ions, before addition of further components. The concentrate can be used to make a working strength processing solution, or it can be used as a replenishing composition with proper dilution. The solution comprises:

a) at least 0.06 mol/l of a color developing agent in free base form,

b) at least 0.05 mol/l of an antioxidant for the color developing agent,

c) water,

d) a photographically inactive water-miscible or water-soluble hydroxy-containing, straight-chain organic solvent for the color developing agent in free base form, the organic solvent having a molecular weight of from about 50 to about 200 and being present in the concentrate at a concentration such that the weight ratio of water to the solvent is from about 15:85 to about 50:50, and

e) a buffering agent that is miscible in the organic solvent.

This invention also provides a photographic processing chemical kit comprising:

a) the single-part color developing concentrate described above, and

b) one or more of the following compositions:

a photographic bleaching composition,

a photographic bleach/fixing composition,

a photographic fixing composition, and

a photographic stabilizing or final rinsing composition.

Further, this invention includes a method for providing an image in a photographic color silver halide element comprising contacting a photographic color silver halide element with, upon dilution at least four times, the single-part color developing concentrate described above. This color developing step in a photographic processing method can be followed by desilvering the developed photographic color silver halide element, as well as any other useful photoprocessing steps known in the art. Still again, a method of preparing the homogeneous, single-part color developing concentrate described above comprises the steps of: A) mixing in

water, a color developing agent present as a sulfate salt, an antioxidant for the color developing agent, an alkali metal base to provide alkali metal ions in at least stoichiometric proportion to sulfate ions present in the sulfate salt, and a photographically inactive water-miscible or water-soluble, hydroxy-containing, straight-chain organic solvent, the organic solvent having a molecular weight of from about 50 to about 200 and being present in the concentrate at a concentration such that the weight ratio of water to the solvent is from about 15:85 to about 50:50, to form a water-insoluble alkali metal sulfate in the solution, and Preferred color developing agents include, but are not limited to, N,N-diethyl p-phenylenediamine sulfate (KODAK Color Developing Agent CD-2), 4-amino-3-methyl-N-(2-methane sulfonamidoethyl)aniline sulfate, 4-(N-ethyl-N-.beta.-hydroxyethylamino)-2-methylaniline sulfate (KODAK Color Developing Agent CD-4), p-hydroxyethylethylaminoaniline sulfate, 4-(N-ethyl-N-2-methanesulfonylaminoethyl)-2-methylphenylenediamine sesquisulfate (KODAK Color Developing Agent CD-3), 4-(N-ethyl-N-2-methanesulfonylaminoethyl)-2-methylphenylenediamine sesquisulfate, and others readily apparent to one skilled in the art. In order to protect the color developing agents from oxidation, one or more antioxidants are generally included in the color developing compositions. Either inorganic or organic antioxidants can be used. Many classes of useful antioxidants are known, including but not limited to, sulfites (such as sodium sulfite, potassium sulfite, sodium bisulfite and potassium metabisulfite), hydroxylamine (and derivatives thereof), hydrazines, hydrazides, amino acids, ascorbic acid (and derivatives thereof), hydroxamic acids, aminoketones, mono- and polysaccharides, mono- and polyamines, quaternary ammonium salts, nitroxy radicals, alcohols, and oximes. Also useful as antioxidants are 1,4-cyclohexadiones as described in copending and commonly assigned U.S.

Ser. No. 09/123,976 (filed Jul. 29, 1998 by Qiao and McGarry), and entitled "Photographic Developing Compositions and Methods of Using 1,4-Cyclohexanediones As Antioxidants". Mixtures of compounds from the same or different classes of antioxidants can also be used if desired. Buffering agents are generally present in the color developing compositions of this invention to provide or maintain desired alkaline pH of from about 7 to about 13, and preferably from about 8 to about 12. These buffering agents must be soluble in the organic solvent described herein and have a pKa of from about 9 to about 13. Such useful buffering agents include, but are not limited to, carbonates, borates, tetraborates, glycine salts, triethanolamine, diethanolamine, phosphates and hydroxybenzoates. Alkali metal carbonates (such as sodium carbonate, sodium bicarbonate and potassium carbonate) are preferred. Mixtures of buffering agents can be used if desired. In addition to buffering agents, pH can also be raised or lowered to a desired value using one or more acids or bases. It may be particularly desirable to raise the pH by adding a base, such as a hydroxide (for example sodium hydroxide or potassium hydroxide). An essential component of the color developing concentrates of this invention is a photographically inactive, water-miscible or water-soluble, straight-chain organic solvent that is capable of dissolving color developing agents in their free base forms. Such organic solvents can be used singly or in combination, and preferably each has a molecular weight of at least 50, and preferably at least 100, and generally 200 or less and preferably 150 or less. Such preferred solvents generally have from 2 to 10 carbon atoms (preferably from 2 to 6 carbon atoms, and more preferably from 4 to 6 carbon atoms), and can additionally contain at least two nitrogen or oxygen atoms, or at least one of each heteroatom. The organic solvents are substituted with at least one hydroxy functional group, and preferably at least two of such groups. They are straight-

chain molecules, not cyclic molecules. The color developing concentrates of this invention have utility to provide color development in an imagewise exposed color photographic silver halide element comprising a support and one or more silver halide emulsion layers containing an imagewise distribution of developable silver halide emulsion grains. A wide variety of types of photographic elements (both color negative and color reversal films and papers, and color motion picture films and prints) containing various types of emulsions can be processed using the present invention, the types of elements being well known in the art (see Research Disclosure, noted above). In particular, the invention can be used to process color photographic papers of all types of emulsions including so-called "high chloride" and "low chloride" type emulsions, and so-called tabular grain emulsions as well. The color developer solution can also be used in processing of color reversal and color negative films. Color development is generally followed by a bleaching or bleach/fixing step using a suitable silver bleaching agent. Numerous bleaching agents are known in the art, including hydrogen peroxide and other peracid compounds, persulfates, periodates and ferric ion salts or complexes with polycarboxylic acid chelating ligands. Particularly useful chelating ligands include conventional polyaminopolycarboxylic acids including ethylenediaminetetraacetic acid and others. While the reference teaches a color developing solution comprises components in amounts meeting the instant claim limitations, and a bleach fix solution that may comprises hydrogen peroxide and other conventional additives, the reference fails to specifically teach a bromide salt in the bleach-fix.

Ishikawa disclose a color photographic processing apparatus in which a color film processing apparatus, a printer and a color paper processing apparatus are installed in a casing is provided.

The bleaching solution and bleach-fixing solution usable in the present invention can contain a rehalogenating agent such as a bromide (e. g. potassium bromide, sodium bromide or ammonium bromide), a chloride (e. g. potassium chloride, sodium chloride or ammonium chloride) or an iodide (e. g. ammonium iodide). If necessary, the solution can contain one or more inorganic acids and organic acids having a pH-buffering function such as borax, sodium metaborate, acetic acid, sodium acetate, sodium carbonate, potassium carbonate, phosphorous acid, phosphoric acid, sodium phosphate, citric acid, sodium citrate and tartaric acid as well as alkali metal and ammonium salts of them, and a corrosion inhibitor such as ammonium nitrate or guanidine.

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the bleach-fix solution of Darmon et al choosing to add a bromide salt as taught by Ishikawa with reasonable expectation of achieving an improved color developer and process.

7. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kida et al (5,464,732) and Darmon et al (6,077,651) or Ishikawa et al (5,752,122).

Kida et al disclose a silver halide color photographic light-sensitive material, and more particularly to a silver halide color photographic light-sensitive material having excellent color forming characteristics, capable of forming an image excellent in the permanency, and improved so as to be free of color fog. The material appears to meet the instant claim limitations. The color developing solution comprises aromatic primary amine developing agent used in the invention, known compounds may be used; the following are typical examples of the compound. CD-1: N,N-diethyl-p-phenylenediamine (the instant CD-2). The developer solution, in addition to the

above agent, may also contain the following constituents: alkali agents such as sodium hydroxide, potassium hydroxide, sodium metaborate, potassium metaborate, sodium tertiary phosphate, potassium tertiary phosphate, borax and silicate, which may be used alone or in combination within limits not to produce precipitates or to be able to retain pH stabilization effect. Further, for the necessity in preparation or for the purpose of raising the ion strength, various salts such as disodium hydrogenphosphate, dipotassium hydrogenphosphate, sodium hydrogencarbonate, potassium hydrogencarbonate, and borates may be used. Examples of the bromine ion donor include sodium bromide, potassium bromide, ammonium bromide, lithium bromide, nickel bromide, magnesium bromide, manganese bromide, calcium bromide, cadmium bromide, cerium bromide and thalium bromide. Of these bromides the preferred are sodium bromide and potassium bromide. In the case of having such chlorine or bromine ions eluted from the light-sensitive material into the developer solution during its developing process, they may be supplied either from the emulsion layer or from the nonemulsion layer of the light-sensitive material. The bleach-fix solution contains a silver halide fixing agent besides the above bleaching agent, and, if necessary, also contains a sulfite as the preservative thereof. There may also be used a bleach-fix solution containing ferric ethylenediaminetetraacetate as a bleaching agent, a silver halide fixing agent and a large amount of a halide such as ammonium bromide, and a special bleach-fix solution comprising in combination ferric ethylenediaminetetraacetate as a bleaching agent and a large amount of ammonium bromide. As the above halide there may also be used hydrochloric acid, hydrobromic acid, lithium bromide, sodium bromide, potassium bromide, sodium iodide, potassium iodide and ammonium iodide in addition to the above ammonium bromide. The aforementioned silver halide fixing agent contained in the bleach-fix

solution is a compound capable of reacting with silver halide to form a water-soluble complex salt as employed in ordinary fixing solution, which includes thiosulfates such as, e.g., potassium thiosulfate, sodium thiosulfate and ammonium thiosulfate; thiocyanates such as potassium thiocyanate, sodium thiocyanate and ammonium thiocyanate; thiourea, thioether. While the bleach-fix may comprise additional additives, the reference fails to specifically suggest hydrogen peroxide.

Daramon et al has been discussed above, but additionally teaches that color development is generally followed by a bleaching or bleach/fixing step using a suitable silver bleaching agent. Numerous bleaching agents are known in the art, including hydrogen peroxide and other peracid compounds, persulfates, periodates and ferric ion salts or complexes with polycarboxylic acid chelating ligands. Particularly useful chelating ligands include conventional polyaminopolycarboxylic acids including ethylenediaminetetraacetic acid and others.

Ishikawa has been discussed above, but further discloses that various bleaching agents are usable for preparing the bleaching solution and bleach-fixing solution to be used in the processing machine of the present invention. They include, for example, hydrogen peroxide, persulfates, potassium ferricyanide, dichromates, iron chlorides and ferric aminopolycarboxylates. Particularly preferred bleaching agents are the ferric aminopolycarboxylates.

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the solutions of Kida et al choosing to add a hydrogen peroxide with reasonable expectation of achieving an improved color developer and process.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Arcus et al (6,589,721), Ishikawa (6,629,785 and 6,361,930), Ishikawa et al (6,376,162), Hall et al (6,520,694), and O'Toole et al (5,554,491) are cited for their teachings of similar compositions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amanda C. Walke

Amanda C Walke
Examiner
Art Unit 1752

ACW
March 20, 2005